INDEX---VOL. XXIX.

A.

A Proposed New Association, 217.
Action of Sonorous Vibrations in Varying the Force of an Electric Current, Prof. Hughes, 2.
Aitken, H., Paper on Influence of Aqueous and other Vapors on Illuminating Gas, 12.
Albany, N. Y., Damage to Peoples Gas Co.'s Works by Storm, 60.
American Gas-Light Association, Secretary's Circular, 25, 49, 73, 97, 121, 145.
Ammonia *vs.* Malaria, 133.
Ammonia in the Kitchen, 134.
American Gas-Light Association, Official Report of, 194, 219, 243, 266.
Ammonia Manufacture a Sanitary Agent, 206.
Ammoniacal Liquor, 278.
A Rare Opening, 84.
Arrangement and Construction of Gas Works, H. E. Hill, 76.
Artificial Light, Sanitary Aspects of, 36.
Australian Shale, Analysis of, 38.

B.

Belts, Preservation of, 134.
Benzole, Luminosity off, W. Dittmar, 28, 29.
" " " Frankland, 28.
Boiler Making, Robt. Briggs, C. E., 75.
Brooklyn, the Gas Question, 7.
" Naphtha Gas, Explosion Expected, 10.
British Association Gas Managers, President's Address, 55.
Brooklyn, N. Y, Assessing Gas Co.'s Stock, 61.
British Association Gas Managers, 79, 103, 128, 141, 175.
Brooklyn Mutual Gas-Light Co., 254.
Brownsville, Tenn., Gas Works, 275.

C.

Candles Altered by Long Exposure to Sea Water, 37.
Capital and Revenue, Geo. Livesey, 107.
Carbonic Oxide, Absorbtion by Living Organisms, 251.
Charging Retorts, E. S. Cathels, 180.
Charging Retorts, New System, L H. Gross, 158.
Clocks, Self Illuminating, 175.
Condensation, by R. Smith, 52.
Coke from Anthracite Dust, 62.
Coke Manufacture in Pennsylvania, 74.
Corrosion of Boilers, 133.
Cooling Hot Journals, 218.
Connellsville Coke, 222.
Coke in Cleveland, G. W. Warmington, 253.
" " W. H. Price, 277.
Crystal Palace Gas Co,, London, 229.

D.

Dalziel, (West of Scotland) Paper on Non-tilting Gas Meter, 31.
Deaths from Water Gas, 174, 251.
Distribution per mile of Pipe, 61.
Duplex Center Seal, Smith & Farmer's, 75.

E.

EDITORIALS—

Annual Meeting of American Society of Civil Engineers, 217.
Burners, 241.
Death of Wm. B. King, Editor *Journal of Gas-Lighting*, 193.
Death of E. M. Perkins, 122.
Electrical Measurements, 241.
Electric Light, Laws of Light and Wave Motion, 98.
Electric Light, Report to Chelsea (London) Vestry, 121.
Fatal Gas Explosion, City Hall, Brooklyn, 1.
Gas Matters in Yonkers, N. Y., 1.
King's Treatise, 194, 242.
New System of Charging Retorts, 122.
Opposition Gas Companies, 50.
Patent Processes, 73.
Present State of Electric Lighting, by J. N. Schoolbred, 265.
Richmond, Va., Gas-Light Co., Report of, 25.
Report of Investigations upon the Electric Light as used in Paris, by G. Warren Dresser, 169.
Smoke them out—Carburetters, 49.
St. Louis Gas Co., Annual Report, 73.
Sixth Annual Meeting of Am. Gas-Light Association, 145-194.
The Richmond Report, 49.
To Stockholders, Causes of Decline in Stocks, 145.
The Electric Light, 193.
The Fall in Gas Stocks, 217.
The Electric Light, 265.
Western Gas Managers Association, 98.

Economy and Wealth, 229.
Edison's Light and the Silly Birds, 242.
Edison's Lamp, 250.
Electric Light in Factories, 36.
" " for Workshops, by Mr. Ford, 51.
" Lamps in Paris, B. Silliman, 99.
" Light *vs.* Gas Light, Lewis Thompson, 146.
" " (Boston Transcript), 147.
" " Nature, 219.
" " London *Lancet*, 250.
" Lamp, 231-250.
" " in Denmark, 242.
" " Report of Chas. Hunt, 247.
" " J. O. N. Rutter, 248, 271.
" " at Sea, Steamship Faraday, 250.
" Light and Gas Panic, British Mail, 250.
" " at Woolwich, 251.
" " " Philadelphia, Wm. Helme, 253.
" " by Wm. Livesey, 272.
Explosions, 271.

F.

Frederick, Md., New Gas Works, 123.
Fires from Kerosene, 230.
Flame Temperature, 180, 230.
Flicker in Gas Shares, 242.

G.

Gas Cooking Stoves, 14.
Gas Consumed in House of Representatives, 30.
Gas Works, Proposed Purchase of, by Xenia O., 37.
Gas Co., Organization of, at Sherbrooke, Canada, 37.
Gas Lime, Possible use for Constituent of, 38.
Gas and its use as Fuel, 50.
Gas Apparatus, Exhibition of, 61.
Gas Pipe 40 Years in use, 61.
Gas Pipe, Destruction of, by Corrosion, 61.
Gas Mains Injured by Heavy Rollers, 61.
Gas Light, Effect of, on the Eyes, 61.
Gas Explosion, Brooklyn, 84.
Gas Motors for Tramways, 84.
Gas in Neenah, Wis., 85.
Gas at Monckton, N. B., 85.
Gas Troubles in Pittsburgh, 85.
Gas Tight Cloth, 85.
Gas Machines, Danger of, 85.
Gas Leakage, 109.
Gas Notes from Ohio, 110, 157, 252.
Gas Light and Coke Co. (Chartered), Meeting of, 125.
Gas Motors, 126.
Gas Testing Cock, 180.
Gas Flame, Relation of Theory to Practice, by Dr. T. O'Conner Sloane, 245.
Gas as Fuel, 276.
Government of Gas Works, by G. A. McIlhenny, 243.

H.

Heat Value of Fuel, 206.
Holly System Steam Heating to be tried, by Gas Co,, Springfield, Mass., 60.
Hovey's Patent Gas-Light Extinguisher, 218.
Horn Lanterns, 276.

I.

Illumination by Electricity, by J. Jamin, 3.
Illuminating Power (Official Tests), N. Y. Gas, 7, 31, 55, 79, 103, 127, 151, 175, 199, 230, 252, 277.
Illuminating Power, Difficulties of Testing, John Reid, 101.
Same, F. W. Hartley, 101.
Same, Chas. Hunt, 102.
Same, W. L. P. B., 102.
Same, John Reid, 103.
Illuminating Power of Gas, A New Standard for Determining the, by Mr. Methvane, 151.
Impure Gas, 251.
Inspection of Mines, 86.
Incrustation on Bricks, 103.

K.

Keely Motor, 34.
Kerosene Explosion, 55.

L.

Lamp Black, Analysis of, 133.
Large Gas Holder at Phœnix Station, 155.
Lighting by Electricity, 5 27.
Light House Illumination, 171.
" " " *Le Gaz*, 29.
Loss of Gas through Pressure, 34.
Lowe Gas Process, Harrisburgh, Sale of, 36.
" " " Peoria, Ill., 37.
" " " Indianapolis, 53.
" " " Scranton, 61.
London Gas Co.'s Proposed Fusion of, 155.
London Gas Works, G. W. Dresser, 198.
Luminous and Chromatic Sensations, 219.

M,

Morton, Prof. H., Appointed Member of U. S. Light House Board, 14.

N.

Naphtha Explosion in Brooklyn, 84.
Natural Gas, Important use of, 148.
" " in Missouri, 229.
Naphtha Lamps out, Detroit, 206.
Natural Gas, Bloomfield, N. Y., 37.
New England Associaton Gas Engineers, August Meeting, 25, 49, 127.
Newbiggin, Thos., Tar and the Absorption of Illuminants in Coal Gas, 26.
Nelson, D. M., Steel's Patent Gradutory Condensing etc., Apparatus, 33.
New Association Proposed, 230, 254.
North of England Gas Managers Association, 51.

O.

Obituary, B. G. Raymond, Woonsocket, 37.
" Samuel Lewis, Detroit, Mich., 277.
Oil Well, McKeesport, Pa., 111.
Oil Gas Association, Organization of, 35.
Oxide of Iron, Treatment of Spent, 62.
Ozone, Detection of, in Air, 38.

P.

Patterson, N. J., Facts Concerning Gas Question, 78.
Painting Iron Work, 230.
Petroleum Exports, 85.
Petroleum, Short History of, 86.
Petroleum Crude, 86.
Providence Gas Co., Purchase of Citizens Co., 123.
Petroleum Trade, 126.
Petroleum in Germany, 205.
Preventable Waste, Chas Hunt, 130.
Price of Gas, Derby, Ct., 134.
Price of Gas, Frederick, Md., 37.
" " Peoria, Ill., Contract for, 61.
" " Milwaukie, 85, 103.
Purification by Liquids F. D. Marshall, 175
" " Ammoniacal Liquor, F. Livesey, 177.

S.

Safety Lamps, Williamson's, 61.
Sanitary Engineering, 148.
Sewage Outfalls, 205.
Selling Gas, C. H. Nettleton, 225.
Smith, C. F., Appointed Supt. Woonsocket Gas Co., 61.
Spent Lime, Analysis of, 126.
St. Johns, N. B., Gas-Light Co., Eelection of Officers, 31.
Street Lighting Contract, Evansville, Ind., 37, 60.
" " Allegheny, Pa., 37.
" " Quebec, 61.
Steam Boiler Explosions, 54.
St. John, W. H., Letter of, 60.
St. Joseph, Mo., the Gas Question, 60.
Street Lamps with Naphtha in Brooklyn, 61.
Street Lighting in Indianapolis, 134.
" " " Springfield, Ill., 134.
" " " Baltimore, 134.
" " " Detroit, Mich.,
Steam Engine, by R. H. Thurston, Prof., &c., 276.
Sulphur Compounds, Removal of, 78.

T.

Tanks, Brick, Concrete and Composite, W. Richards, 82.
Transfer of Gas Works to Local Authorities, A Penny, 105.
Telegraphy, Recent Advances in, 149, 174.
Telephone, 38.
The Relation of Science to Industry, 62.

U.

Unity of Management of Gas Cos., 84.
Utilization of Heat and other Natural Forces, 85.

V.

Ventilation of Sewers and Drains, 156.
Velocity of Light, 278.
Ventilating and Purifying Sewers, 278.
Visit to West Va. Coal Fields, 180.

W.

Water Gas for Heating Purposes, 35.
Waterloo, Iowa, Gas Works Completed, 61.
Washington (D. C.) Gas Co., Price for Street Lights, 61.
Washington, D. C., Damage by Storm, 133.
Waste Products, Value of, 134, 199.
Water Gas, Jon. S. Chambers, 219.
West of Scotland Association, 11, 31.
Western Gas Managers' Association, 98, 110, 133, 147, 172.
What is a Ton or a Bushel, 86.
Wood Gas, J. R. Smedberg, 124.

Y.

Yonkers, Questions about Gas, 10.

INDEX---VOL. XXIX.

A.

A Proposed New Association, 217.
Action of Sonorous Vibrations in Varying the Force of an Electric Current, Prof. Hughes, 2.
Aitken, H., Paper on Influence of Aqueous and other Vapors on Illuminating Gas, 12.
Albany, N. Y., Damage to Peoples Gas Co.'s Works by Storm, 60.
American Gas-Light Association, Secretary's Circular, 25, 49, 73, 97, 121, 145.
Ammonia *vs.* Malaria, 133.
Ammonia in the Kitchen, 134.
American Gas-Light Association, Official Report of, 194, 219, 243, 266.
Ammonia Manufacture a Sanitary Agent, 206.
Ammoniacal Liquor, 278.
A Rare Opening, 84.
Arrangement and Construction of Gas Works, H. E. Hill, 76.
Artificial Light, Sanitary Aspects of, 36.
Australian Shale, Analysis of, 38.

B.

Belts, Preservation of, 134.
Benzole, Luminosity off, W. Dittmar, 28, 29.
" " " Frankland, 28.
Boiler Making, Robt. Briggs, C. E., 75.
Brooklyn, the Gas Question, 7.
" Naphtha Gas, Explosion Expected, 10.
British Association Gas Managers, President's Address, 55.
Brooklyn, N. Y, Assessing Gas Co.'s Stock, 61.
British Association Gas Managers, 79, 103, 128, 141, 175.
Brooklyn Mutual Gas-Light Co., 254.
Brownsville, Tenn., Gas Works, 275.

C.

Candles Altered by Long Exposure to Sea Water, 37.
Capital and Revenue, Geo. Livesey, 107.
Carbonic Oxide, Absorbtion by Living Organisms, 251.
Charging Retorts, E. S. Cathels, 180.
Charging Retorts, New System, L H. Gross, 158.
Clocks, Self Illuminating, 175.
Condensation, by R. Smith, 52.
Coke from Anthracite Dust, 62.
Coke Manufacture in Pennsylvania, 74.
Corrosion of Boilers, 133.
Cooling Hot Journals, 218.
Connellsville Coke, 222.
Coke in Cleveland, G. W. Warmington, 253.
" " W. H. Price, 277.
Crystal Palace Gas Co,, London, 229.

D.

Dalziel, (West of Scotland) Paper on Non-tilting Gas Meter, 31.
Deaths from Water Gas, 174, 251.
Distribution per mile of Pipe, 61.
Duplex Center Seal, Smith & Farmer's, 75.

E.

EDITORIALS—

Annual Meeting of American Society of Civil Engineers, 217.
Burners, 241.
Death of Wm. B. King, Editor *Journal of Gas-Lighting*, 193.
Death of E. M. Perkins, 122.
Electrical Measurements, 241.
Electric Light, Laws of Light and Wave Motion, 98.
Electric Light, Report to Chelsea (London) Vestry, 121.
Fatal Gas Explosion, City Hall, Brooklyn, 1.
Gas Matters in Yonkers, N. Y., 1.
King's Treatise, 194, 242.
New System of Charging Retorts, 122.
Opposition Gas Companies, 50.
Patent Processes, 73.
Present State of Electric Lighting, by J. N. Schoolbred, 265.
Richmond, Va., Gas-Light Co., Report of, 25.
Report of Investigations upon the Electric Light as used in Paris, by G. Warren Dresser, 169.
Smoke them out—Carburetters, 49.
St. Louis Gas Co., Annual Report, 73.
Sixth Annual Meeting of Am. Gas-Light Association, 145-194.
The Richmond Report, 49.
To Stockholders, Causes of Decline in Stocks, 145.
The Electric Light, 193.
The Fall in Gas Stocks, 217.
The Electric Light, 265.
Western Gas Managers Association, 98.

Economy and Wealth, 229.
Edison's Light and the Silly Birds, 242.
Edison's Lamp, 250.
Electric Light in Factories, 36.
" " for Workshops, by Mr. Ford, 51.
" Lamps in Paris, B. Silliman, 99.
" Light *vs.* Gas Light, Lewis Thompson, 146.
" " (Boston Transcript), 147.
" " Nature, 219.
" " London *Lancet*, 250.
" Lamp, 231-250.
" " in Denmark, 242.
" " Report of Chas. Hunt, 247.
" " J. O. N. Rutter, 248, 271.
" " at Sea, Steamship Faraday, 250.
" Light and Gas Panic, British Mail, 250.
" " at Woolwich, 251.
" " " Philadelphia, Wm. Helme, 253.
" " by Wm. Livesey, 272.
Explosions, 271.

F.

Frederick, Md., New Gas Works, 123.
Fires from Kerosene, 230.
Flame Temperature, 180, 230.
Flicker in Gas Shares, 242.

G.

Gas Cooking Stoves, 14.
Gas Consumed in House of Representatives, 30.
Gas Works, Proposed Purchase of, by Xenia O., 37.
Gas Co., Organization of, at Sherbrooke, Canada, 37.
Gas Lime, Possible use for Constituent of, 38.
Gas and its use as Fuel, 50.
Gas Apparatus, Exhibition of, 61.
Gas Pipe 40 Years in use, 61.
Gas Pipe, Destruction of, by Corrosion, 61.
Gas Mains Injured by Heavy Rollers, 61.
Gas Light, Effect of, on the Eyes, 61.
Gas Explosion, Brooklyn, 84.
Gas Motors for Tramways, 84.
Gas in Neenah, Wis., 85.
Gas at Monckton, N. B., 85.
Gas Troubles in Pittsburgh, 85.
Gas Tight Cloth, 85.
Gas Machines, Danger of, 85.
Gas Leakage, 109.
Gas Notes from Ohio, 110, 157, 252.
Gas Light and Coke Co. (Chartered), Meeting of, 125.
Gas Motors, 126.
Gas Testing Cock, 180.
Gas Flame, Relation of Theory to Practice, by Dr. T. O'Conner Sloane, 245.
Gas as Fuel, 276.
Government of Gas Works, by G. A. McIlhenny, 243.

H.

Heat Value of Fuel, 206.
Holly System Steam Heating to be tried, by Gas Co,, Springfield, Mass., 60.
Hovey's Patent Gas-Light Extinguisher, 218.
Horn Lanterns, 276.

I.

Illumination by Electricity, by J. Jamin, 3.
Illuminating Power (Official Tests), N. Y. Gas, 7, 31, 55, 79, 103, 127, 151, 175, 199, 230, 252, 277.
Illuminating Power, Difficulties of Testing, John Reid, 101.
Same, F. W. Hartley, 101.
Same, Chas. Hunt, 102.
Same, W. L. P. B., 102.
Same, John Reid, 103.
Illuminating Power of Gas, A New Standard for Determining the, by Mr. Methvane, 151.
Impure Gas, 251.
Inspection of Mines, 86.
Incrustation on Bricks, 103.

K.

Keely Motor, 34.
Kerosene Explosion, 55.

L.

Lamp Black, Analysis of, 133.
Large Gas Holder at Phœnix Station, 155.
Lighting by Electricity, 5 27.
Light House Illumination, 171.
" " " *Le Gaz*, 29.
Loss of Gas through Pressure, 34.
Lowe Gas Process, Harrisburgh, Sale of, 36.
" " " Peoria, Ill., 37.
" " " Indianapolis, 53.
" " " Scranton, 61.
London Gas Co.'s Proposed Fusion of, 155.
London Gas Works, G. W. Dresser, 198.
Luminous and Chromatic Sensations, 219.

M,

Morton, Prof. H., Appointed Member of U. S. Light House Board, 14.

N.

Naphtha Explosion in Brooklyn, 84.
Natural Gas, Important use of, 148.
" " in Missouri, 229.
Naphtha Lamps out, Detroit, 206.
Natural Gas, Bloomfield, N. Y., 37.
New England Associaton Gas Engineers, August Meeting, 25, 49, 127.
Newbiggin, Thos., Tar and the Absorption of Illuminants in Coal Gas, 26.
Nelson, D. M., Steel's Patent Gradutory Condensing etc., Apparatus, 33.
New Association Proposed, 230, 254.
North of England Gas Managers Association, 51.

O.

Obituary, B. G. Raymond, Woonsocket, 37.
" Samuel Lewis, Detroit, Mich., 277.
Oil Well, McKeesport, Pa., 111.
Oil Gas Association, Organization of, 35.
Oxide of Iron, Treatment of Spent, 62.
Ozone, Detection of, in Air, 38.

P.

Patterson, N. J., Facts Concerning Gas Question, 78.
Painting Iron Work, 230.
Petroleum Exports, 85.
Petroleum, Short History of, 86.
Petroleum Crude, 86.
Providence Gas Co., Purchase of Citizens Co., 123.
Petroleum Trade, 126.
Petroleum in Germany, 205.
Preventable Waste, Chas Hunt, 130.
Price of Gas, Derby, Ct., 134.
Price of Gas, Frederick, Md., 37.
" " Peoria, Ill., Contract for, 61.
" " Milwaukie, 85, 103.
Purification by Liquids F. D. Marshall, 175
" " Ammoniacal Liquor, F. Livesey, 177.

S.

Safety Lamps, Williamson's, 61.
Sanitary Engineering, 148.
Sewage Outfalls, 205.
Selling Gas, C. H. Nettleton, 225.
Smith, C. F., Appointed Supt. Woonsocket Gas Co., 61.
Spent Lime, Analysis of, 126.
St. Johns, N. B., Gas-Light Co., Eelection of Officers, 31.
Street Lighting Contract, Evansville, Ind., 37, 60.
" " Allegheny, Pa., 37.
" " Quebec, 61.
Steam Boiler Explosions, 54.
St. John, W. H., Letter of, 60.
St. Joseph, Mo., the Gas Question, 60.
Street Lamps with Naphtha in Brooklyn, 61.
Street Lighting in Indianapolis, 134.
" " " Springfield, Ill., 134.
" " " Baltimore, 134.
" " " Detroit, Mich.,
Steam Engine, by R. H. Thurston, Prof., &c., 276.
Sulphur Compounds, Removal of, 78.

T.

Tanks, Brick, Concrete and Composite, W. Richards, 82.
Transfer of Gas Works to Local Authorities, A Penny, 105.
Telegraphy, Recent Advances in, 149, 174.
Telephone, 38.
The Relation of Science to Industry, 62.

U.

Unity of Management of Gas Cos., 84.
Utilization of Heat and other Natural Forces, 85.

V.

Ventilation of Sewers and Drains, 156.
Velocity of Light, 278.
Ventilating and Purifying Sewers, 278.
Visit to West Va. Coal Fields, 180.

W.

Water Gas for Heating Purposes, 35.
Waterloo, Iowa, Gas Works Completed, 61.
Washington (D. C.) Gas Co., Price for Street Lights, 61.
Washington, D. C., Damage by Storm, 133.
Waste Products, Value of, 134, 199.
Water Gas, Jon. S. Chambers, 219.
West of Scotland Association, 11, 31.
Western Gas Managers' Association, 98, 110, 133, 147, 172.
What is a Ton or a Bushel, 86.
Wood Gas, J. R. Smedberg, 124.

Y.

Yonkers, Questions about Gas, 10.